R.F. PENTODE

Pentode intended for use as R.F., I.F. or video amplifying tube or as mixing tube in television receivers.

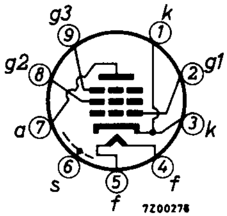
QUICK REFERENCE DATA			
Anode current	I_a	10	mA
Transconductance	S	7.4	mA/V
Amplification factor	$\mu_{g_2g_1}$	50	-
Internal resistance	R_i	500	kΩ

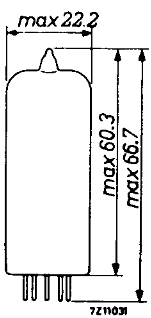
HEATING: Indirect by A.C. or D.C.; series or parallel supply

Heater voltage	V_f	6.3	V
Heater current	I_f	300	mA

DIMENSIONS AND CONNECTIONS Dimensions in mm

Base: Noval





CAPACITANCES

Grid No.1 to all except anode	$C_{g_1(a)}$	6.9	pF
Anode to all except grid No.1	$C_{a(g_1)}$	3.1	pF
Anode to grid No.1	C_{ag_1}	max. 0.007	pF
Anode to cathode	C_{ak}	max. 0.012	pF
Grid No.2 to all	C_{g_2}	5.4	pF
Grid No.1 to grid No.2	$C_{g_1g_2}$	2.6	pF
Grid No.1 to heater	C_{g_1f}	max. 0.15	pF
Cathode to heater	C_{kf}	5.0	pF

REMARK

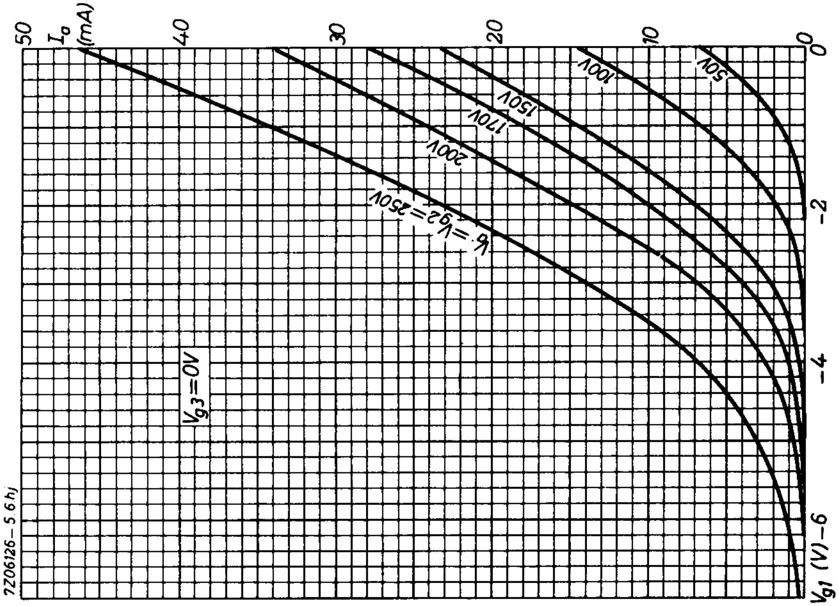
When using the EF80 as video amplifier the amplification between the input grid of the EF80 and the input of the cathode ray tube should not exceed a value of 25, in order to prevent microphonic effect.

TYPICAL CHARACTERISTICS AND OPERATING CHARACTERISTICS

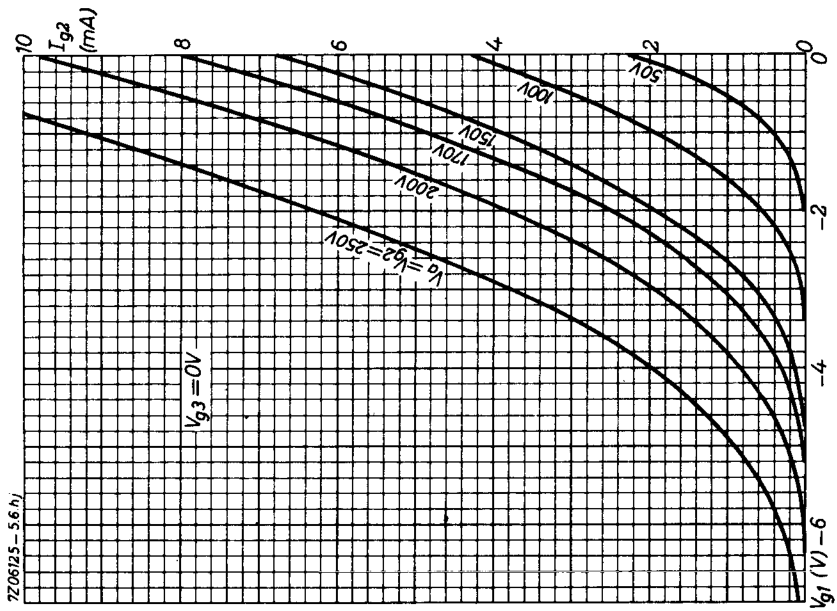
Anode voltage	V_a	170	200	250	V
Grid No.3 voltage	V_{g_3}	0	0	0	V
Grid No.2 voltage	V_{g_2}	170	200	250	V
Grid No.1 voltage	V_{g_1}	-2.0	-2.55	-3.5	V
Anode current	I_a	10	10	10	mA
Grid No.2 current	I_{g_2}	2.5	2.6	2.8	mA
Transconductance	S	7.4	7.1	6.8	mA/V
Internal resistance	R_i	0.5	0.55	0.65	MΩ
Amplification factor	$\mu_{g_2g_1}$	50	50	50	-
Equivalent noise resistance	R_{eq}	1000	1100	1200	Ω
Grid No.1 input resistance f = 50 MHz, pin 1 connected to pin 3	r_{g_1}	10	12	15	kΩ

LIMITING VALUES (Design centre rating system)

Anode voltage	V_{a_o}	max.	550	V
	V_a	max.	300	V
Anode dissipation	W_a	max.	2.5	W
Grid No.2 voltage	$V_{g_{2o}}$	max.	550	V
	V_{g_2}	max.	300	V
Grid No.2 dissipation	W_{g_2}	max.	0.7	W
Grid No.2 dissipation (W_a < 1.8 W)	W_{g_2}	max.	0.9	W
Grid No.1 resistor	R_{g_1}	max.	1	MΩ
Cathode current	I_k	max.	15	mA
Heater to cathode voltage	V_{kf}	max.	150	V



I_a (mA)
50
40
30
20
10
0
$V_a = V_{g2} = 250V$
200V
170V
150V
100V
50V
$V_{g3} = 0V$
0
−2
−4
−6
V_{g1} (V)
7Z06126 – 5.6.hj



I_{g2} (mA)
10
8
6
4
2
0
$V_a = V_{g2} = 250V$
200V
170V
150V
100V
50V
$V_{g3} = 0V$
0
−2
−4
−6
V_{g1} (V)
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PHILIPS

Data handbook

Electronic components and materials

EF80

page	sheet	date
1	1	1970.01
2	2	1970.01
3	3	1970.01
4	4	1970.01
5	FP	1999.08.16